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(74) Common Representative: BASELL POLYOLEFINE GMBH; Intellectual Property -F 206, 67056 Ludwigshafen (DE).

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(71) Applicant (for all designated States except US): BASELL POLYOLEFINE GMBH [DE/DE]; Brühler Strasse 60, 50389 Wesseling (DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): MIHAN, Shahram [IR/DE]; Am Eichwald 18, 65812 Bad Soden (DE). ENDERS, Markus [DE/DE]; Waldhofer Str. 52, 69120 Heidelberg (DE). FERNANDEZ, Pablo [ES/DE]; Schröderstrasse 48, 69120 Heidelberg (DE).

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(54) Title: MONOCYCLOPENTADIENYL COMPLEXES

(57) **Abstract:** Monocyclopentadienyl complexes in which the cyclopentadienyl system bears at least one bridged donor and at least one aryl group and a catalyst system comprising at least one of the monocyclopentadienyl complexes, and also processes for preparing them, the use of the catalyst system for the polymerization or copolymerization of olefins and a process for preparing polyolefins by polymerization or copolymerization of olefins in the presence of the catalyst system and the preparation of the associated cyclopentadienyl system.